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Notice of Allowability	Application No.	Applicant(s)	
	10/799,076	SCHUCKER, ROBERT C.	
	Examiner	Art Unit	
	Dah-Wei D. Yuan	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 12/18/06.
2. ☒ The allowed claim(s) is/are 10,13-17,19-21 and 26-34.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

THIN FILM COMPOSITE ELECTROLYTE

Examiner: Yuan

S.N. 10/799,076

Art Unit: 1745

February 8, 2007

Detailed Action

1. The Applicant's amendment filed on December 18, 2006 was received. Claims 11,12,18 were cancelled. Claims 10,14,16,31 were amended.

2. The text of those sections of Title 35, U.S.C. code not included in this action can be found in the prior Office Action issued on August 16, 2006.

Claim Rejections

3. The claim rejections under 35 U.S.C. 112, second paragraph, on claims 10-21,26-34 are withdrawn because independent claim 10 has been amended. The claim rejections under 35 U.S.C. 103(a) as obvious over Joshi et al., Futaki et al. and Balagopal et al. on claims 10-21,26-34 are withdrawn because independent claim 10 has been amended.

Reasons for Allowance

4. Claims 10,13-17,19-21,26-34 are allowed. The invention of independent claim 10 recites a method of forming a three-layered thin film composite solid electrolyte comprising the steps of (a) tape casting a series of sheet of films, each said sheet formed from one of at least two slip composites, each said slip composite containing an electrolyte where the electrolyte of each the slip composite has a coefficient of thermal expansion coefficient for each the electrolyte in each slip composite is identical within +/- 5%, wherein one of the slip composites is formed with an

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added combustible pore former and another of the slip composites is formed without the pore former material, (b) laminating the series of sheets to create a layered structure having at least three layers, and (c) sintering the layered structure at a final sintering temperature to densify the layer formed from the non-porous materials to create an ionically conductive layer wherein said final sintering temperature is about 1500-1600°C. The closest prior art of record, Joshi et al., Futaki et al., Balagopal et al. and Khandkar et a. (US 5,171,645), does not teach to create a three-layered solid electrolyte at a final sintering temperature of about 1500-1600°C.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dah-Wei D. Yuan whose telephone number is (571) 272-1295. The examiner can normally be reached on Monday-Friday (8:00-5:00).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dah-Wei D. Yuan
February 8, 2007



DAH-WEI YUAN
PRIMARY EXAMINER